

CLAIMS

1. An iris recognition apparatus, comprising:
- 5 a guidance unit to guide the position of an eye;
an image recognition unit to recognize an image of an iris passed through the
guidance unit; and
an optical axis adjustment unit having a vertical movement unit to move the
image recognition unit in a vertical direction and a horizontal movement unit to move
10 the image recognition unit in a horizontal direction, in order to align optical axes of the
image recognition unit and guidance unit.
2. The apparatus according to claim 1, wherein the guidance unit has a
guidance region printed at a center of a front surface thereof so that a person can locate
15 his or her eye at the guidance unit.
3. The apparatus according to claim 1, wherein the guidance unit transmits
infrared radiation, and reflects visible radiation.
- 20 4. The apparatus according to claim 1, wherein the horizontal movement
unit of the optical axis adjustment unit moves linearly in a horizontal direction.
5. The apparatus according to claim 1, wherein the horizontal movement
unit of the optical axis adjustment unit moves rotationally in a horizontal direction.
- 25 6. An iris recognition apparatus, comprising:
a guidance unit to guide an eye to a predetermined position in front of a lens;
a light to provide illumination of the eye by radiating light of more than a
predetermined luminosity;

an image recognition unit including an optical system having a plurality of lenses for gathering light and a pickup device for imaging an iris of the eye;

a fixing frame supporting the image recognition unit from below and being engaged with the guidance unit; and

an optical axis adjustment unit having a vertical movement unit for vertically moving the image recognition unit and a horizontal movement unit for horizontally moving the image recognition unit for adjusting the optical axis of the image recognition unit and guidance unit.

7. The apparatus according to claim 6, wherein the guidance unit has a guidance region printed at a center of a front surface thereof so that a person can locate his or her eye at the guidance unit.

8. The apparatus according to claim 6, wherein the guidance unit transmits infrared radiation, and reflects visible radiation.

9. The apparatus according to claim 6, wherein the horizontal movement unit of the optical axis adjustment unit moves linearly in a horizontal direction.

10. The apparatus according to claim 6, wherein the horizontal movement unit of the optical axis adjustment unit moves rotationally in a horizontal direction.

11. The apparatus according to claim 10, wherein the horizontal movement unit includes

a horizontal movement frame installed on a top surface of the fixing frame, said horizontal movement frame having a hole formed at a center of the top surface thereof, the fixing frame having an extrusion unit formed at the center of the top surface thereof and having another hole formed at one edge thereof, and the horizontal movement frame having an adjustment guide formed at a position corresponding to the hole on the

fixing frame at one corner thereof.

12. The apparatus according to claim 11, wherein the adjustment guide is formed higher than other portions of the horizontal movement frame, is indented at a center thereof, and has extrusion units at left and right portions thereof.

13. The apparatus according to claim 11, wherein, on the horizontal movement frame, more than one long rotation guide hole are formed at positions in a common radius around the central hole.

14. The apparatus according to claim 11, wherein a fixing part is coupled to the long rotation guide hole.

15. The apparatus according to claim 6, wherein the vertical movement unit includes

a lifting frame installed on a top surface of the fixing frame, said lifting frame having a lifting control unit curved being higher than a center of the lifting frame at both ends thereof, said lifting control unit including more than two vent holes punched at both ends of the lifting frame and a lifting guide bar extended from the vent holes to the fixing frame to be thus fixed thereto.

16. The apparatus according to claim 15, wherein the lifting guide bar has a screw thread formed on its outer surface, and has a stopper formed at its upper end.

17. The apparatus according to claim 16, wherein an elastic member is installed on an outer surface of the lifting guide bar.

18. An optical recognition apparatus, comprising:
a guidance unit to guide an eye into an appropriate position for recognition, the

guidance unit having an optical axis;

an image recognition unit to recognize an image of the eye transmitted by the guidance unit, the image recognition unit having another optical axis; and

an optical axis alignment unit connected to one of the guidance unit and the
5 image recognition unit to align the optical axes of the image recognition unit and guidance unit.

19. The apparatus according to claim 18, wherein the alignment unit is connected to the guidance unit, and operates to move the optical axis of the guidance
10 unit.

20. The apparatus according to claim 18, wherein the alignment unit is connected to the image recognition unit, and operates to move the optical axis of the
15 image recognition unit.

21. The apparatus according to claim 20, wherein the alignment unit is operable to translate the optical axis in more than one direction.

22. The apparatus according to claim 20, wherein the alignment unit is
20 manually adjustable.

23. The apparatus according to claim 20, wherein the alignment unit includes at least one actuator to move the optical axis.